STEREO GRAPHIC EQUALIZER

GE-90

INSTRUCTION MANUAL

KENWOOD

DEAR AUDIO FAN

The purpose of this manual is to acquaint you with the operating features of your new equalizer. You will notice that in every detail of planing, engineering, styling, operating convenience, and adaptability, we have sought to anticipate your needs and desires.

We suggest that you read this manual carefully. Knowing how to set up your equalizer to the best advantage will enhance your listening pleasure right from the start. You will also become aware of the ease with which you can adjust your equalizer to meet your special requirements.

FOR YOUR RECORDS

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your Kenwood dealer for information or service on this product.

Model GE-90 Serial number_____

AFTER UNPACKING

After unpacking, we recommend that you inspect the unit for any possible shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials to prevent any damage should you transport or ship your unit in the future.

INSTALLATION PRECAUTIONS

a) Avoid locations subject to direct sunlight.
b) Avoid high or low temperature extremes.
c) Keep the unit away from heat radiating sources.
d) Choose a location that is relatively free of vibration or excessive dust.
e) Make sure power is off before making any system connections.

SAFETY PRECAUTIONS

CLEANING

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzine, etc. to clean the cabinet. Use a silicone cloth or a clean dry cloth.

SERVICE OR MODIFICATIONS

Do not remove the cabinet or touch internal parts. Refer all service to qualified service personnel. Unauthorized modifications can result in a dangerous shock hazard and can void the warranty.

IMPORTANT!

U.S.A. AND CANADA

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only. These units are not equipped with an AC Voltage Selector switch and the discussion of such a switch that follows should be disregarded.

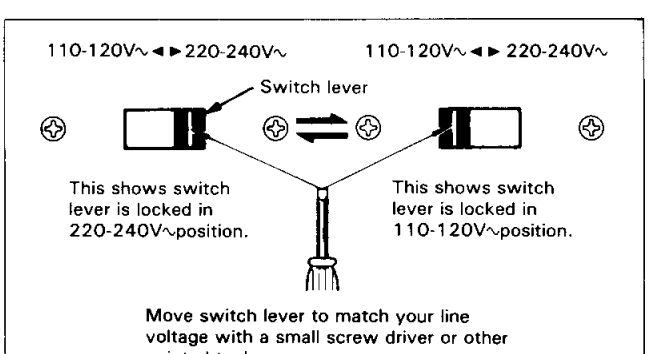
ALL OTHER COUNTRIES

Units shipped to countries other than the U.S.A. and Canada are equipped with an AC Voltage Selector switch on the rear panel.
Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

This unit operates on 110-120 volts or 220-240 volts AC. The AC Voltage Selector Switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC Voltage Selector Switch.


110-120V~◄►220-240V~
110-120V~◄►220-240V~
Switch lever
This shows switch lever is locked in 220-240V~position.
This shows switch lever is locked in 110-120V~position.
Move switch lever to match your line voltage with a small screw driver or other pointed tool.

AC VOLTAGE SELECTOR SWITCH

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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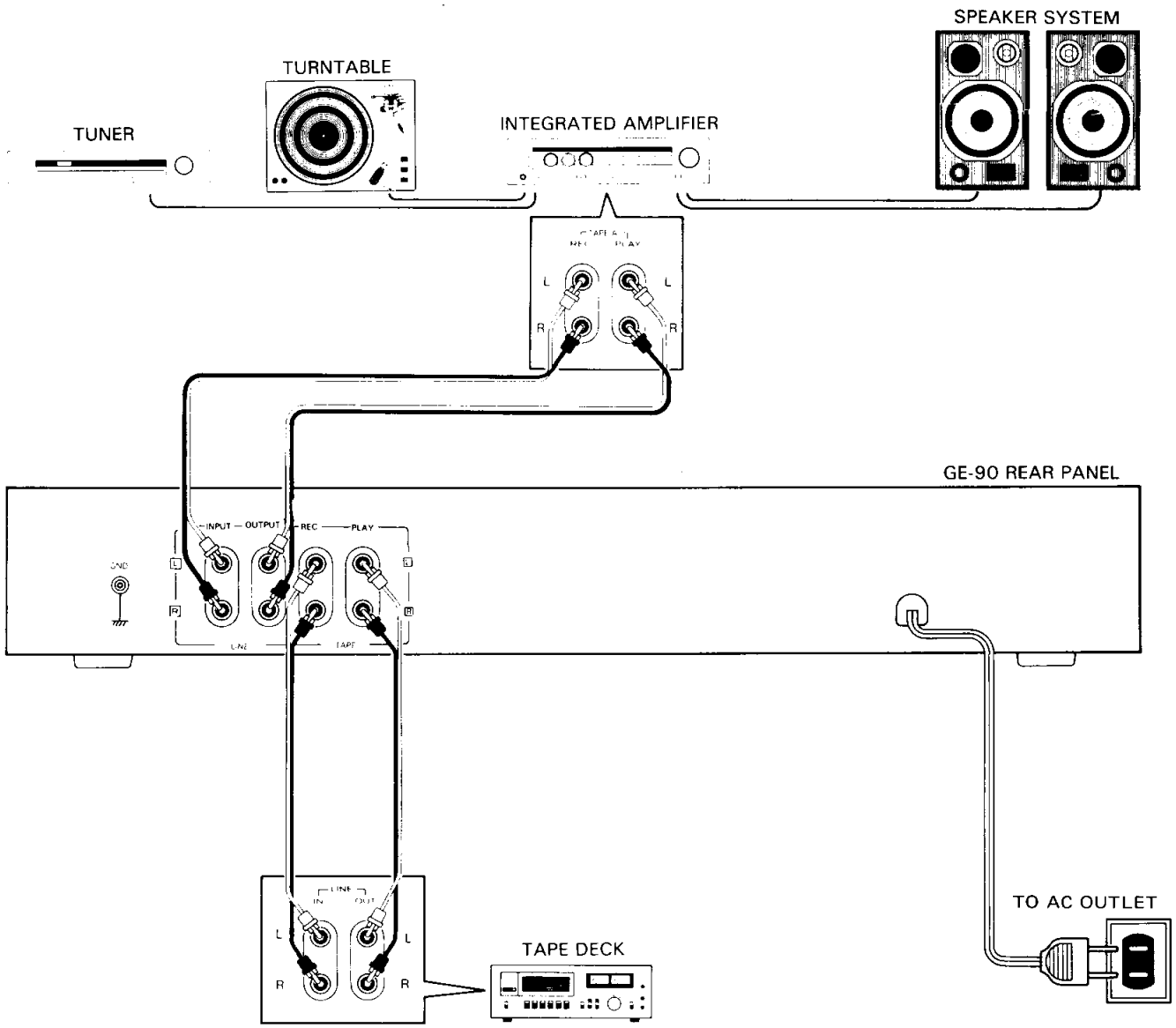
567890N/152 D12345/252 67890N/253

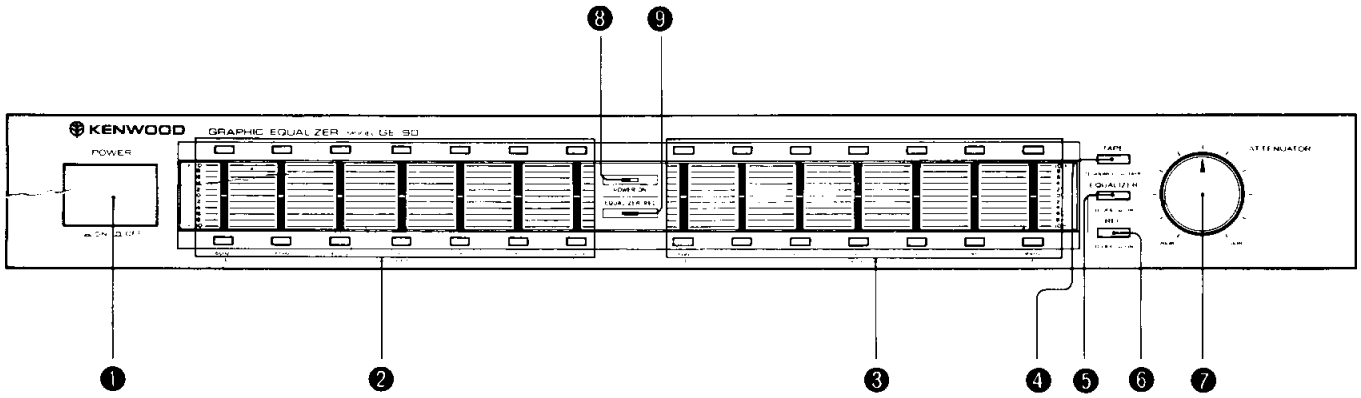
SYSTEM CONNECTIONS



Precautions

1. Each connecting cord must be connected securely to the corresponding terminals (R to R and L to L). Poor connection can result in noise.
2. Before connecting or disconnecting any cord, be sure to turn off the power switches of the GE-90 and integrated amplifier.
3. Do not bind the input/output cords together with the power cord and speaker cord. Do not extend the input/output cords unnecessarily to avoid the possibility of noise or deterioration of tone quality.

CONTROLS AND INDICATORS



❶ Power Switch

❷ Left Channel Equalizer Controls

❸ Right Channel Equalizer Controls

Flat output is obtained when the red LED indicators are in the center positions. Tone quality is adjusted by changing the output levels of the separate frequency ranges upward or downward by up to 10 dB. The output levels are adjustable both upwards and downwards in 5 steps of 2 dB each.

Upward movement:

Press the upper button. The output level is increased one step each time the button is pressed.

Downward movement:

Press the lower button. The output level is reduced one step each time the button is pressed. Operation is the same for both the right and left channels.

60 Hz: Increasing output at this frequency will boost bass sound, such as from a pipe organ or contrabass, to provide a sense of weight and stability. Decreasing output at this frequency will eliminate hazy bass tones to produce clear sounds.

160 Hz: This control is used to adjust the level of low frequency signals. Moving the control in upward direction will help to increase bass tones from small size speakers.

400 Hz: This control is mainly used to adjust level of vocal sounds. Move the control up and down to obtain suitable vocal sounds.

1 kHz: The strength or weakness of a sound is prominent at this frequency.
Increasing output at this frequency will effectively enhance musical presence.

2.5 kHz: This frequency is the most striking part of the sound to listeners. Increasing output at this frequency enhances the brightness, brilliance, crispness, etc. of wind instruments.

6 kHz: Effective for controlling the brightness of a sound.
Increasing output at this frequency will help to enhance the naturalness of sounds such as produced by the strings of violins.

16 kHz: This control adjusts very high frequency sounds such as from cymbals. To eliminate tape hiss noise, move the control downward.

❹ Tape Monitor Switch

TAPE: To playback a tape deck connected to the amplifier or to monitor the sounds being recorded.

SOURCE: To listen to program sources (FM/AM, turntable, microphone, etc.) connected to the amplifier.

❺ Equalizer Switch

Turn this switch to ON and the frequency characteristic will be modified by passing through the graphic equalizer. In the OFF position, the frequency characteristic remains unchanged.

❻ Equalizer Recording Switch

Depress this switch and equalizer switch ❺ to ON; signals to be recorded on tape will allow equalized. If you wish to record non-equalized signals with the equalizer switch in the ON position, turn the equalizer recording switch to OFF. This will allow you to hear the equalized signals while recording non-equalized signals.

❼ Attenuator

Adjustment range: 0 to −20 dB (0 dB in normal use). This control supplements the equalizer by acting to adjust the output level.

❽ Power Indicator

Lights when the power switch is turned on.

❾ Equalizer Recording Indicator

Lights when switch ❻ is set for equalized recording.

OPERATING PROCEDURE

1. Depress the power switch to turn on the power.
2. Set the amplifier TAPE MONITOR switch to "TAPE" or "ON".
3. To listen to tape, set the Tape Monitor switch ❹ to TAPE. To listen to other program sources (turntable, FM, etc.), set the switch to SOURCE.
4. Set the EQUALIZER switch ❺ to ON and adjust the equalizer controls to suit your listening preference.
5. To record equalized programs on tape, follow the procedures noted in the above items 1, 2, 3 and 4, then set the EQUALIZER REC switch ❻ to ON. If it is desired to record non-equalized programs, simply set the EQUALIZER REC switch ❻ to OFF.

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated

2. Retain Instructions – The safety and operating instructions should be retained for future reference.

3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions – All operating and use instructions should be followed.

5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

7. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves or other appliances (including amplifiers) that produce heat.

8. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

9. Power Cord Protection – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

10. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.

11. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

12. Object and Liquid Entry – Care should be taken so that objetcts do not fall and liquids are not spilled into the enclosure through openings.

13. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
    A. The power supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.

14. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

SPECIFICATIONS

Equalizer characteristic

Variable range ..... ± 10 dB (L & R independently adjustable) 2 dB Step

Center frequencies ..... 60 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6 kHz, 16 kHz

Attenuation ..... 0 ~ – 20 dB at 1 kHz

Frequency response ..... 10 Hz ~ 60 kHz + 0 dB, – 1 dB

Harmonic distortion ..... Less than 0.006% (20 Hz ~ 20 kHz, all controls flat, output 1 V)

Maximum output ..... 5 V (1 kHz, THD 0.01%, R_L 47 kohms)

S/N ratio ..... 110 dB (Short-circuited IHF-A network)

Input impedance ..... 47 kohms

Gain ..... 0 dB ± 1 dB

Power consumption ..... 0.06 A (UL, CSA)
7 W (IEC)

Dimensions ..... 440(W) × 50(H) × 148(D) mm

Weight ..... 2.2 kg (net), 2.8 kg (gross)

Note:

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.